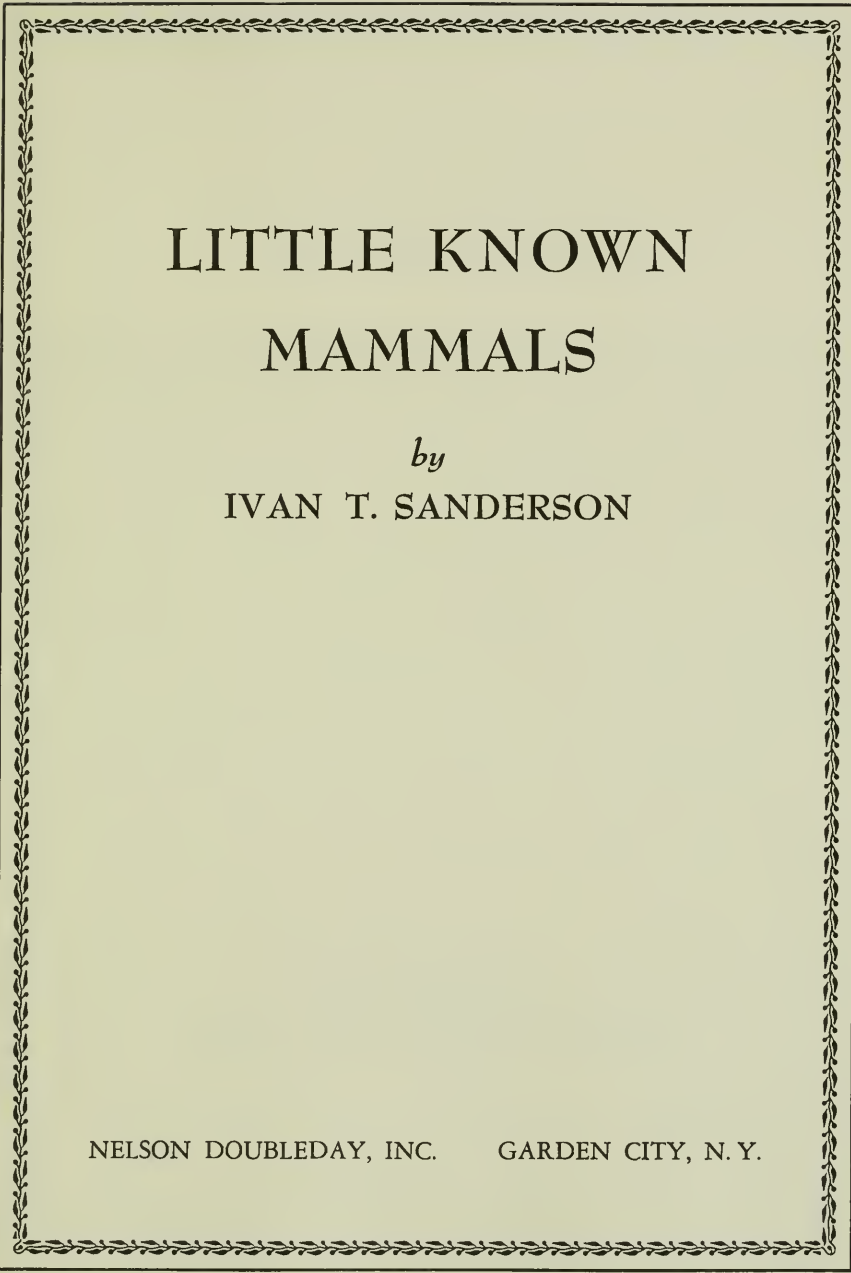


» NATIONAL AUDUBON SOCIETY «



Nature Program

LITTLE KNOWN
MAMMALS



LITTLE KNOWN MAMMALS

by
IVAN T. SANDERSON

NELSON DOUBLEDAY, INC.

GARDEN CITY, N. Y.

*Prepared with the cooperation of the
National Audubon Society*

COPYRIGHT 1956
BY NELSON DOUBLEDAY, INC.®
PRINTED IN THE UNITED STATES OF AMERICA

ALMOST EVERYBODY sooner or later seems to ask the question:—how many different kinds of animals are there? This is a very difficult question to answer and for various reasons, one of which is that we are still finding about forty thousand new kinds every year which we previously did not know existed. Secondly, it has not as yet, in many cases, been decided how precisely to define a *kind* or species. Thirdly, nobody thus far has ever really tried to count all the kinds that have been found and described and given names.

Nevertheless, it is customarily stated that there are about a million *known kinds* of living animals on the earth. Half of them are insects, but entomologists believe that we have so far found only about one tenth of all the kinds of these that exist. Of the other half, it is said that about one fifth are animals that have backbones.

There are six major groups of these, five of which have their backbones divided up into a series of little separate bones, called vertebrae. These are the Fishes, the Amphibians—salamanders, frogs and toads—the Reptiles, the Birds, and the Mammals. Now, when we come to inquire about the number of different kinds of each of these that are known, we encounter a most puzzling state of affairs. We have about one hundred thousand backboned animals to count but the counts so far made vary so greatly that we begin to doubt whether we know anything about this subject at all. Published estimates vary as follows—for the Fishes, from 14,000 to 32,000; for the Amphibians, from 2,000 to 4,000; for the Reptiles, from 4,000 to 6,000; for the Birds, from 8,600 to as many as 21,000; and for the Mammals, from 4,000 to 16,000. Neither the lower total of 32,600 for all of these, nor the higher of 79,000 adds up to the one hundred thousand mentioned



Fig. A: The STAR-NOSED MOLE has silky fur, no visible eyes, and lives underground, but swims well and is active all winter. *Photo: Lynwood Chace*

above, so that something must be wrong. In fact, fifty thousand, or one twentieth of *all* known living *animals* would, perhaps, be a better estimate for the number of those that have vertebrated backbones.

Taking the individual groups, only the Birds have really been carefully counted—by Drs. Ernst Mayr and Dean Amadon—and the result is the lowest estimate. Now, when we come to study the discrepancies between the lowest and highest estimates we find that there is far more doubt about the number of *Mammals* than there is about any of the other groups: the highest (16,000) being no less than four

times that of the lowest (4,000). Let us be conservative and say that there are 8,000 kinds of Mammals, and then play a little game.

Take a large piece of paper and start writing down all the different mammals you know without, of course, looking them up in books. You will have done very well if you reach a hundred, since the average person, not specifically studying animals, appears to be able to name about that number. This means that there are nearly seven thousand, nine-hundred mammals that are virtually unknown to most of us. Then, cross out all the domestic animals you have named, and all those that live in your country—like skunks, 'coons, and 'possums, and see what you have left. There will probably be lions and tigers and elephants and chimps, and possibly zebras. But if by any chance you happen to have a viscacha, a hedgehog, a wombat, a mongoose, or a duiker in your list, you should probably add a hundred points for each, yet these would be one of the first names listed in the Argentine, Germany, Australia, India, and Africa respectively. And if you have a cacomixtle, a peccary, or a coatimundi anywhere in your list you ought to get two hundred points, even though these animals are found right in your own backyard!

In other words, we know little about the mammals of other countries, and sometimes still less of our own.

There is nothing wrong in this, for nobody can know everything and we could probably get along quite well today without knowing the difference even between a horse and a cow. Nonetheless, getting to know some of the thousands of little-known mammals that share our earth with us is a harmless and interesting pastime, and it can sometimes be really worthwhile. So, let's take a trip around the world, starting from somewhere in our own country and visiting six of the seven continents. This trip will probably double your list of animals.

We Stop Off In Pennsylvania

THERE IS a swampy meadow by a little brook behind the farm buildings. In the brook are quiet pools in which all sorts of insects, snails, and other small animals live. It is early morning and we are sitting by one of these pools when suddenly an extraordinary-looking gray, bun-shaped creature, about as long as your hand, comes swim-

ming by, but standing on its head. You make a grab for it and find you have a soft, squashy, little mammal in your hand, eight inches long, with a three-inch tail, and coming to a point in front. The forelimbs stick out sidewise and bear enormous paws facing backwards. The little back legs kick furiously. It looks like a mole but it seems to be trying to swallow a tiny pink octopus. Then, you look at its face and see that it has twenty-one fleshy feelers arranged around its snout. It is a Star-nosed Mole (Fig. A) found only in the northeastern part of our country and nowhere else. It lives underground and burrows, but it also swims well and, in winter, it may even wander about on top of the snow.

Although seldom seen and little known, Star-nosed Moles are really quite common in many areas.

Plate 25

Many country boys in western Europe carry one of these in their pockets to hunt rabbits, but wild ones smell "something awful."

The Muskeg In Labrador

AS THE PLANE DESCENDS towards the Labradorian airport of Gander, it looks as if the whole world were covered with meandering waterways, interspersed with pancakes of sodden muskeg. The whole country in summer is a morass, covered by a humming mist of mosquitos.

Plate 17

They live in tunnels under the moss of the tundra and have large litters of young every few weeks during spring, summer, and fall.

We take a short tour into this country, traveling by jeep to the end of a small road, and then tramping out into the waist-high growth of the tundra. Soon we came to a bare mud flat by an inky channel, and on this dozens of little, furry, tailless guineapig-like animals are running about on legs so short that the creatures look like mechanical toys. They are rodents, but of a special kind that is found only in the extreme north of the American continent. Known as Snow-Lemmings (No. 17), these animals turn pure white in the fall and remain active throughout the Arctic winter, burrowing under the snow for food and often bouncing along its surface despite sub-zero temperatures. An interesting feature about these little animals is that every fall they grow huge additions to the regular claws of their third and fourth toes. These seasonal growths are much larger than the permanent claws and are useful as snow-shovels but may do other jobs as well. In summer these Arctic rodents turn brown and are called Collared Lemmings.



Fig. B: PERE DAVID'S DEER is found in captivity in China and unknown in the wild. This strangest of all deer now lives only in zoos in Europe and America. *Photo: New York Zoological Society*

We Visit A Zoo In England

THERE IS A STOP-OVER in London so we can visit some of England's historic sites. On the last day we take a trip to the famous Whipsnade Zoo. This is a sort of country estate owned by the London Zoological Society, where many kinds of animals live outside all year round, and where others go from the city to spend the summer. Whipsnade Park



Fig. C: The COMMON EUROPEAN DORMOUSE has a summer and winter home. It collects nuts for winter food and drills holes in them to get at the kernels. *Photo: Zoological Society of London*

is divided into several large paddocks in which the animals roam just as they would in their own native lands. There are all sorts of deer, and it is to a particular family party, known as Pere David's Deer, that we are directed. They are strange scraggy-looking animals (Fig. B) with large horns that divide at an angle of forty-five degrees. Big glands under their eyes give them a most woebegone expression, and the notice on the fence of their paddock indeed tells a sad story, for it says that they are extinct, except for these and about a hundred more in other zoos. Nobody knows where they originally came from, but they were discovered by a French missionary in a royal park in China, where they were not allowed to be touched or even seen by the public. After a lot of undercover strategy and bribery, a few were smuggled out of the park alive and sent to England where they started to breed. It was only thirty years later when the remaining deer in China were slaughtered during the revolutions.

Our First Stop In Germany

THE BUILDINGS and the views around are surprisingly like those we saw in Pennsylvania. There is even a brook running through a meadow with still clear pools in it, and we sit down in the morning sunlight by one of these, but it is a pebble rolling into the pool that catches our eye this time. Startled, we look up the bank and there, just stepping over a log, is a smart little animal with beady black eyes, a body like a huge inch-caterpillar, and a glistening fur that at first looks dark brown, and then creamy yellow as the animal snuffles industriously over, around, under, and into everything, and humps along. It is a true Polecat (No. 25), a sort of large weasel, an expert swimmer, but not as fast on land as the dashing ermine. The Polecat has been tamed in Europe to go into holes and chase out rabbits. A domesticated form, called the polecat-ferret in Germany is used in pairs to work with a falcon, chasing out small game for the bird to dive-bomb. The little animal sees us and lets out a frightful odor. No wonder your great-great-grandfather, when he landed in New England and first met a skunk called him a polecat!

An Incident In Switzerland

THIS PLACE is different. The old stone house is surrounded by ancient oak trees and huge, massive-leaved hollies. At night their twigs finger the brick walls and tap on the windows. There is a hole in the oak opposite our window and, just before switching out the lights, we feel sure we saw a movement in its black, gaping entrance. Creeping to the window and peering out into the moonlight, we see an animal like a fluffy little squirrel (Fig. C), clambering along the branch straight towards us. But there is something odd about its movements, the way it carries its tail, and its enormous, bulging, black eyes that stare at us through a quivering network of pale whiskers. It comes to the end of the branch just as our host appears unexpectedly between us and whispers, "Dormouse." Then we learn that this is the commonest of several kinds of these gnawing animals that inhabit Europe, Asia, and Africa. They are not squirrels, but constitute a distinct group of rodents. Those living in northern climes are some of

Wild sheep that can run along the side of a precipice using ledges so small you sometimes cannot see them.

the greatest known hibernators, sleeping—*dormant*, in French—for months on end, hence their name of the “sleeping mice.” The Romans used to eat one kind.

Napoleon's Birthplace

HAVING LANDED on the Mediterranean island of Corsica, seen the birthplace of the Little Corporal and a lot of old churches, we take a trip up into the rugged mountains encircled by their blankets of dense, thorny maquis scrub. Our guide is a dour fellow with a yellow skin and long, black, handlebar *moustacchios*. He carries a beautiful new German rifle with a telescopic sight. We scramble all morning over broken boulders mid windswept crags and finally come to a beautiful little hanging alpine valley completely hidden from the world among the clouds. Our guide suddenly drops to the ground and we follow suit. Then he beckons us to look through the telescope, and, doing so, we finally pick out a dozen reddish-colored, sheeplike animals, some with large backwardly curved and deeply ridged horns, lying about in various relaxed poses on the brown mountain grass. They are a family party of *Mouflon* or *Muffione* (No. 16) the last remaining truly wild sheep of Europe—unless the curious red animal found on one of the St. Kilda Islands in the far north Atlantic be truly wild animals. There is another species of *Mouflon* in Turkey, Cyprus and Persia. They are mountain animals and can climb like goats.

Plate 4

One of the fastest things on two legs that live invariably in vast networks of burrows, but comes out at night, especially after rains.

Landing In North Africa

IT IS A PITCH BLACK NIGHT and the giant plane thunders up the runway towards the blinking light on the control tower. When the door is opened and we file out into the night, a strangely fragrant freshness assails our nostrils, for it has rained recently and the desert is blooming. We enter a car and speed off across the sand to a distant customs shed. The dunes are clothed in a carpet of small flowers, and right at the far edge of the beams of our headlights a myriad of tiny white things go flashing off in all directions, kicking up dust whorls like minuscule djinns. The driver points them out, laughing and yelling "*Yarbu.*" They are Jerboas (No. 4)—one of many kinds found from eastern Europe to Central Asia and all over the Middle East and North Africa. Jerboas are gnawing mammals with long, stiltlike hind legs, tiny arms and forepaws that they conceal in the long plumelike fur when going flat out, and long tails with terminal tufts that they use as rudders to make sudden turns. They feed on seeds and insects and make nice pets but chew up carpets, clothes, brooms, and anything else made of vegetable fibers.

A Night On The Gold Coast

ANOTHER NIGHT in another land far to the south. The sky is clear and a full moon sails majestically across the luminous sky. Instead of silence and fresh air, the night sounds like a sawmill and smells like a perfumery, as myriads of small things buzz, whirr, chirrup, croak,

and whistle in the inky shadows. The beams of our flashlights skip from limb to limb among the towering, cathedral-like woody lattice-work far above our heads, and focus upon some moving leaves. Maneuvering to get a better view, we manage to illumine an eager little foxy face with rounded, woolly ears and a pair of eyes that seem to be blind. This moves forward into the light and a small, low-chassied, cat-shaped body comes into view, followed by an immensely long, fluffy tail. Creeping along the branch, as if pretending it has not been spotted, is one of Africa's commonest night-walkers, a False Palm-Civet (Fig. D). Its only relatives live thousands of miles away in the Orient. Despite its formidable teeth and sharp claws it feeds mostly on ripe fruits, young birds, and insects. These animals are clothed in thick brown fur with diffuse dark spots and always have a pair of light spots on their shoulders. Their tails are vaguely ringed.



Fig. D: The WEST AFRICAN FALSE PALM-CIVET is called "False" only because it is not of the True Palm-Civets which live in Asia. The pupil of the eyes contract in bright light so much that they seem to disappear altogether. *Photo: New York Zoological Society*



Fig. F: The SERVAL is a spotted relative of the plume-eared Lynxes of northern woods and of the plain-colored Caracals of India and Africa. *Photo: New York Zoological Society*

Ten Days On The Cross River

AT CALABAR IN NIGERIA, we start a four-hundred-mile-trip up the Cross River. We see lots of wonderful things at the many "landings" at which we stop, but few animals, apart from troops of monkeys, until we turn east and enter the great forests. Here, we begin to see many crocodiles and hippos, and, at a place called M'Baabon, the na-

tives waiting on the high bank have a veritable menagerie of small pets for sale. They hope to make a few extra shillings. The strangest animal offered us clings to a stick upside down. Its thick fur is gingery orange in color, its head is hidden between its legs and it is not tied by a string like the others. The white men on board say they have never seen one of these before but the Africans tell us that it is called an Angwantibo (Fig. E). They say it walks by night, eats birds, insects and fruits, and has no second finger so that its hand looks like a parrot's foot, and is perfect for clinging to branches.

Witching Hour In The Congo

THE SKY IS OVERCAST and a steady rain is falling. It is already past midnight, but we cannot sleep. The night is filled with a ghastly

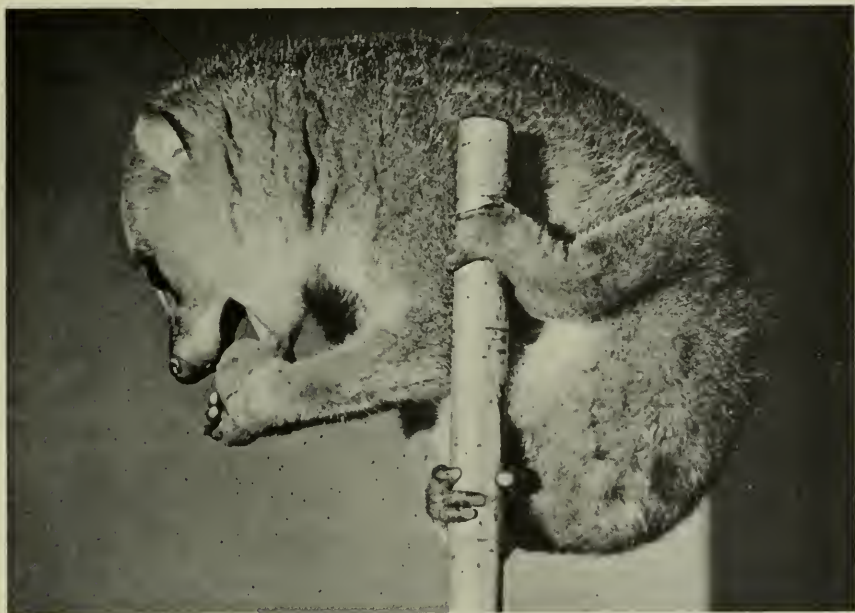


Fig. E: The ANGWANTIBO is one of the rarest of lemurs, found only in the tall deciduous forest of the Cameroon area of West Africa. *Photo: Zoological Society of London*

Plate 5

An oft-heard, but seldom seen denizen of the African equatorial forest. It looks very much like a rabbit but is a primitive kind of hoofed animal.

cacophony of sounds—big things yell, grumble, and mutter; and the insects keep sawing away, and the frogs keep croaking. But above all is a high-pitched, partly supersonic whistling that seems to go right into our skulls and make our very brains vibrate. Finally, somebody yells for a boy and bare feet are heard running over the wood floor followed by a great commotion. Everybody gets up and lights are turned on. Then Africans bring guns and start looking in a clump of trees in the garden. A shot rings out and the ghastly whistling stops. Next, the Belgian manager of the hotel comes running in his pajamas. He apologizes and shows us a book with pictures and points out one of a little animal called a Tree-Hyrax (No. 5), which is a relative of the Coney of the Bible. This, he explains, is the cause of all the trouble. It lives in the tree tops and is a relative of the mighty elephant, but has teeth more like those of a rhinoceros. It climbs by means of suction-pads formed by the moist palms and soles of its hands and feet. It eats insects and leaves and can inflict a nasty bite.

A Trip Through A South African Game Reserve

GETTING OUT of the car, we set out into a tangle of dry scrub. The sun blazes down from a steely, cloudless sky, and vultures flap about on the flat tops of the acacia trees. Beyond the thorns, an endless plain covered with short, dry grass, and dotted with isolated, flat-topped trees and clumps of bushes stretches away to the horizon. Everywhere are ani-

mals, either drifting about, grazing, or just lying in the sun. There are lions, all kinds of antelopes, and a trio of towering giraffes. The game warden leads the way down into a dry gulley and, as we turn the first bend, we come face to face with a lovely creature. It has long, straight legs and a short tail curled slightly above its body. Its ears are tall, triangular, and pricked. Its bright yellow fur is covered with spots and it looks as if it is crying with huge black tears dripping from its slanting eyes. A bird flutters up from among the rocks and, with one leap, the cat rises into the air and smacks it to the ground. Then it seizes it with its mouth, and goes loping away up the side of the gulley. The warden tells us it will take the food to its young, hidden in a "form" hollowed out of a clump of grass. The Serval (Fig. F) is related to the cats, but hunts by day and night. It is found on savannas and plains all over Africa.

A Side Trip To Madagascar

IT IS ALMOST IMPOSSIBLE to get to the great island of Madagascar unless you go to Europe and start out from Paris, so we are lucky indeed to be flown over in a private plane. From the veranda of the huge house where we stay, the country looks rather dull with endless, rolling, green hills covered with cane fields, and little clumps of trees. The air is cool and fresh and we feel that we might just as well be at home, but the man digging in the garden uses a funny tool and he sings a

Tenrecs have been known to give birth to as many as 21 young at a time. They have more teeth than any other mammal except some whales and are almost as "ancient" as opossums.

Plate 9



Fig. G: The SAIGA was once found from eastern Europe to China. These Gazelle Goats live in herds, turn white and shaggy in winter, and have translucent horns that look like amber. *Photo: New York Zoological Society*

strange song. What is more, he suddenly lets out a grunt, dives into the bushes, and then comes running with a round brown thing in his cupped hands. He holds this up to us, chattering excitedly. It turns out to be one of the strangest and most primitive animals in the world—a kind of Tenrec (No. 9), but covered with short, sharp spines. A tenrec is an insect-eating animal, related to the moles, shrews and

hedgehogs but of a kind that got left over in Madagascar many millions of years ago. There are many kinds of tenrecs, the largest being a vast furry ball two feet long, with a terrible set of teeth. This one has a long pointed snout, and a jaw-gape like that of a snake, but most odd of all, it has long, stiff whiskers not only on its head, but also all over its body. The man puts it on the floor and passes his hand in front of its face. Immediately the animal leaps into the air and turns right about and lands facing the other way.

A Safari Camp In Kenya

THE GREEN TENTS form a quadrangle under the giant creeper-festooned trees by a sherry-colored stream. Blue smoke drifts from the kitchen fire and black boys in neat khaki shirts and shorts flit about with trays of iced drinks. We had never believed that Africa could really



Bushbabies live only in Africa and have two tongues—an ordinary one, and a stiff, gristly one below, formed like a comb in front. They use this to clean the fine hairs from between their lower front teeth with which they comb their fur. Their ankle joints are so elongated their legs look like those of birds, and enable them to make extraordinary leaps.

Plate 22



be like this, but then Kenya is a land of strange contrasts. After dinner, our host, a professional white hunter, takes us along a trail by the stream. Everything is silent here but for the whirring insects, and it is over an hour before the hunter draws us silently together and points upwards to a small tree growing below the canopy of giant foliage high above. We see what appear to be two lights, flashing first gold and then magenta, and it is some time before we realize that they are the reflections of our own flashlights caught in the eyes of what we think to be a monster. The hunter makes a tiny clicking noise, and the eyes run up to the top of a dead branch and only then do we see that they belong to a creature not much bigger than a rat with huge ears, practically no face at all, hands like a man, and a long, furry tail. It is a Bushbaby (No. 22), or Galago; a kind of tiny lemur and a distant relative of ours. Then, without apparent movement, the little fluffy thing just soars away into the gloom with its arms and legs spread-eagle and its tail held out stiffly behind it.

A Strange Zoo In Kabul

IT IS A FAR CRY and a very long way from the uplands of Kenya to the mighty mountains of Afghanistan, but flight has given man not only mere wings, but a speed of travel that is still hardly believable. In Kabul, the capital of this small mountainous country, everything is different and strange to us. And one of the first sights which we are shown is a house where a remarkable man keeps all manner of odd animals under spreading plum trees in a huge walled yard. The oddest of these creatures wander loose about this yard and, at first, we think they are only some kind of sheep. But they have horns like gazelles and the most ridiculous-looking faces, with enormous white noses that look artificial, like those worn by some clowns. On inquiring what they may be, we are informed that they are Saigas (Fig. G): animals standing somewhere between the gazelles and the goats, that live on the vast, windswept plains of southern Russia and central Asia, all the way from the Caspian Sea in the west, to Mongolia in the east. These have recently arrived by truck from the region of Lake Balkash in eastern Kirghiz, in exchange for some Markhors for the Moscow Zoo. They make snorting noises.



Fig. H: The KABUL MARKHOR is the most prized of the wild Asiatic goats, several forms of which inhabit the towering ranges in and around Afghanistan. *Photo: New York Zoological Society*

Among The Valleys Of The Hindu Kush

MANY PEOPLE speak of blue skies but only those who have climbed the monstrous mountains of Asia really know what a truly blue sky can be. As we stare up at the towering masses of the great Hindu Kush range, its peaks sprinkled with fluffs of cottony clouds, our eyes water from the brilliance of the firmament above. The hawk-faced tribesmen who lead us jabber excitedly and point in all directions at once but their leader, Abdul, suddenly ducks behind a big rock and spreads his arms wide to stop us, crowding up behind. Then he points at the pinnacle of a ridge marching up the mountainside parallel to

Plate 8

The Central and South American form of the Asiatic Axis deer which retains the vivid white spots throughout life and at all seasons of the year. The Chital has widely-spreading but simply-branched antlers.

our track, and there, standing like a bronze statue on the very peak, is a magnificent creature, a Kabul Markhor (Fig. H), silhouetted against the azure sky. It has vast, twisted, candy-stick horns forming a wide "V". Well out of range of our guns, and knowing it, the animal watches us and, through the binoculars, we see its glassy yellow eyes flicking back and forth. After a time it apparently takes to the air but lands on a minute ridge and goes galloping upwards, across the face of the canyon, followed by two score others of its kind, of all sizes.

Night In An Indian Village

AFTER THE RAREFIED AIR of the mountains the sultry tropical nights of the Ganges valley are oppressive but at the same time strangely stimulating. Here, life goes on twenty-four hours a day and in a most noisy fashion. The village is a large one, its thatched houses spread out like a spider among the lush fields and little irrigation ditches. We are sitting on the veranda of the resthouse watching the fireflies dance in the purple night when something comes snuffling along the wall below the veranda and a pair of beady little black eyes pop around the corner of the steps. We sit like statues watching, and soon a lithe gray body comes around the corner up the steps and on to the veranda. Here the animal pauses, looking up at us, with one tiny paw raised in the air. Then it suddenly pounces and there is a great commotion, for Rikki, the house Mongoose, has caught a snake searching for little

lizards on which to feed. This is a spotted Mongoose (No. 2), a close relative of the species immortalized by Kipling and which was once imported into the West Indies to kill the rats in the canefields. Unfortunately, they also killed off almost everything else, including chickens and all the native fauna. This is why the Mongoose is one of the few animals that is never allowed into the United States as it might do the same here and so destroy our beneficial animals.

The Woods Of Bihar

THE WHOLE COUNTRY looks like a beautifully kept private park. There are glades carpeted with fresh green grass, billowing undergrowth of broadleafed bushes, and all manner of larger trees with spreading foliage either standing by themselves or nestled together to form shady arbors. There are birds and flowers everywhere for the rains have washed the earth and prompted an outburst of reproduction and growth. We meander along in single file, our Indian hunter in the lead, and we constantly pass from open areas flooded in tropical sunlight to cool leafy cathedrals where the shade is sliced by thin shafts of brilliance that dapple the glistening foliage. And it is in one of these places that we come face to face with a party of Chital (No. 8). They are standing perfectly still and, although we pick out first one, then another, and finally a dozen in all, by their pale faces and huge eyes, their bodies blend so perfectly with the background of green leaves, brown branches and blobs of reflected sunlight, they are virtually invisible.

One of a group of very common little Asiatic animals that are domesticated to kill rats and snakes. Other species inhabit the Mediterranean area and Africa.

Plate 2

Back To The Himalayas

THE JOURNEY up the great valley of the Brahmaputra to upper Assam becomes increasingly pleasant; and then, all in one day, we go up into the mountains and it becomes cold. Our objective is a monastery perched on a mountain far above the tree-line and at such a height that there are small snowfields on its more sheltered slopes. This mountain has to be climbed on small rugged ponies and, as our little caravan winds slowly upwards back and forth among the bare rock precipices, we see an astonishing amount of wild life. Eagles and crowlike birds fill the air both above and below us; little fluffy relatives of rabbits dart about among the rocks; and every now and then

Plate 20

One of three species of wild goats.
The other species are found in
southern Arabia, and southern India.

Also known as the Blue Sheep, or Bharal, these bluish-gray animals stand somewhere between the goats and the sheep, and range from the central Himalaya to central China.

Plate 13

some larger things go charging off above our heads, sending down showers of stones. Time and time again this happens before we see the perpetrators but then we come out on to a dizzy catwalk that crosses the face of a cliff and there, skittering along ahead of us are a party of brown goatlike animals with smallhorns and pale manes. They pause a moment to look at us and then go straight up the face of the cliff as if they were using a lot of invisible ladders. They are Tahrs (No. 20), a kind of wild, goatlike animal.

On The Border Of Tibet

ON OUR FIRST CLIMB from this Himalayan monastery village, we are taken over a narrow spur to the flank of a much greater mountain and thence upwards for a two-day-trip by a party of local traders. The air is very thin and we foreigners become breathless but the locals may even run up the gentler slopes although carrying enormous loads of merchandise on their backs! When we reach the first village, we see a group of youths playing an energetic game with an object like a large football but so heavy and solid we can hardly lift it. Our first objective proves to be several hundred feet higher still, and it is on the way to this desolate place that we have to cross a high pass covered with deep snow drifts. Walking about here, with singularly little concern for our appearance, are large numbers of bright bluish-gray animals known as Blue Sheep, or Bharal (No. 13), with small horns, white undersides, and black legs with curious white knee-

Plate 19

A large oriental ox that is now probably only found truly wild in Borneo. Once used in the Louisiana rice fields.

pads and what appear to be bobby-socks. The locals explain that the animals do not fear men because nobody in that country eats meat and hunting is unknown. We pass them again as we return the next day and they hardly bother to move out of our way.

Among The Paddy Fields Of Assam

ARRIVING BACK in the lowlands we take a few days rest near a small town on the banks of a small river before flying on to Burma. Life here proceeds as it has done for centuries. Farmers bring produce into market in ox-drawn carts, the women wash clothes in the little canals, and droves of great lumbering water buffalo (No. 19) meander

about between the rice fields, each watched over by a small, naked boy. When one of the great beasts wanders off, the little boy runs around in front of it, and kicks it on the snout with his bare foot. Enchanted by this ridiculous sight, and wishing to get a photo of it, we stupidly take our cameras and go sloshing over to the nearest herd. The little boy in attendance shouts at us but, not understanding, we circle around and get ready to take pictures as the animals come over a dyke. People all over the place start shouting and running towards us. Meantime, the lead buffalo, a huge brown fellow with bloodshot eyes,



Fig. I: The female MUNTJAC is deerlike but the male has long tusks and simple horns borne on pony pedestals. A primitive relative of the deer family. *Photo: Zoological Society of London*

comes out of the mud with a rush and, snorting, starts to gallop straight at us. Without further ado we run, and we leap up into a hay-cart just as the great animal sweeps by slashing about with its horns. Later, a local schoolmaster tells us just how near death we were and warns us never to go near these animals again.

Over To The Marshlands Of Burma

JOURNEYS that once took six months may now be accomplished in a matter of hours, even in a slow plane. Boarding a plane on the lowlands of the upper Brahmaputra we hop straight over a mighty wall of forested mountains and land in the valley of the Irrawaddy in Burma. Vast marshes meander among islands and peninsulas of jungle and forests as far as the eye can see between distant hills that lie on the horizon both to east and west. We go to stay on a plantation by a



Fig. J: The BINTURONG is one of the only two mammals outside of Australia and South America that can hang on by its tail. It grows to six feet in length and is found all over the Oriental Region. *Photo: Zoological Society of New York*

small river where various plants of medicinal value are grown. Here, big trees grow on slightly higher land while marshes choked with huge grasses and lillylike plants spread all around. There are so many wild animals the place is like a vast menagerie, but of all that we see the most memorable sight is one that is chased into the compound by some mongrel dogs. It looks like a small deer and has a pair of small straight horns but these grow at the end of two furred pedestals that lie backward over its eyes (Fig. I). Stranger still, a pair of long white tusks curve from its upper lips to a considerable distance below its lower jaw. The creature makes a barking noise and finally escapes from the dogs by climbing over a high creeper-covered fence. It is a Muntjac.

The Foothills Of Kachin

A FEW MILES AWAY there is a village of Kachin tribesmen and we go to spend an evening of much eating and entertainment given by them in our honor. When the ceremonies are over, the headman, knowing that we are interested in animals, invites us to come and inspect the game traps set all about in the nearby forest. These are most varied in size and extremely ingenious in design and some are very dangerous since they are designed to kill tigers. In one, constructed like a cage and suspended in a low tree, we see something moving in the bright moonlight. It is large and fluffy but seems quite formless as it climbs around the sides and roof of the cage, looking for some way out. Then it suddenly lets go and hangs upside down, motionless like an elongated sac. When the trap is brought down to the ground and we turn our lights on the thing inside we see only a mass of long, dark-gray fur brindled with silver, a pair of small bright eyes, a mass of long white whiskers, and two rounded ears tipped with drooping black plumes. The animal's feet are like those of a bear and its tail is almost as big as its body. It is a Binturong (Fig. J), a unique member of the civet tribe, that eats small things like frogs and insects, as well as green nuts and fruits, and has a prehensile tail.

A Rubber Estate In Sumatra

IT IS ONLY when we arrive at a newly established rubber plantation on the north side of the great island of Sumatra that we first encounter the



Fig. K: The MALAYAN TAPIRS are uniquely colored primitive herbivores related to the rhinoceroses, and found only in Malayasia. The young are dark brown with longitudinal lines of white spots. *Photo: Arthur W. Ambler*

truly primeval forest. It towers above the isolated estate clearing like a dark green wall, while beneath it lies a tangle of fallen giants in every stage of decay so that the only way to get through it is by the numerous boulder-strewn river beds that lead up to the nearby mountains of Achi. It is the dry season and there is little water in the rivers so that we make daily and nightly excursions up these natural

Plate 24

Standing alone as a separate group of the Primate mammals, the tiny Tarsier may be our original ancestor.

roadways, scrambling over the boulders. Flying lizards glide over us by day and immense fireflies dance above us by night, and it is at night that something very startling happens. We have just climbed around a small waterfall and come to a large open place covered with rounded boulders that look white in the torrential moonlight. To our surprise, half a dozen of these boulders immediately rise off the ground and start moving off towards the bank! They are not, of course, boulders but the middle-parts of some strangely patterned animals with low donkey-sized bodies and short trunks, the Malayan Tapirs (Fig. K).

Among The Trees In Mindanao

IT IS NIGHT and there is a moon but we are viewing the jungle from a novel angle this time—one which few have been privileged to do before. We are crouched in a structure like a huge hollow ball but

made of leafy branches and we are about thirty feet above the ground. All around us are leaves, for this is a "blind" constructed in the lower tree-strata of the jungle by a group of scientists studying the life of this aerial world, many of whose denizens never have and never will come down to earth. In the blind is a small platform of planks and on this stand three cameras on tripods, each with its eager eye thrust through a small hole in the foliage. There are floodlights powered by batteries that may be switched on at will. All manner of strange life-forms creep, hop, crawl, leap, and fly about us, but there is one prize that everybody wishes to catch on film. This is the tiny, spectral Tarsier (No. 24), and it is our good fortune to be on hand when the first near-perfect photograph of one is taken, clinging to a tiny liana. These rat-sized, woolly lemurine creatures with enormous heads and out-sized brains, leap about the lower forest foliage using their extra-jointed hind limbs and immense fingers and toes, each of which ends in clinging pads, much like tree-frogs. Their eyes almost fill their faces and their ears can be "focused" on the slightest sound.

On The Edge Of The Arafura Sea

THERE IS AN EXTRAORDINARY GROUP of flat islands on the northern edge of the Arafura Sea, south of New Guinea and north of Australia. Actually, they are really all parts of one big island formed from the delta of a vast river that once flowed north from Australia. On these islands live Birds-of-Paradise and many strange creatures that should be in Australia. Among the latter is a species of the mammals known as Cuscuses (Fig. L). They come in all sorts of colors from black to white, black and white, spotted, blotched, or half and half. Others are brown and white, plain brown, gingery, reddish, or even orange. They have thick close woolly fur, staring eyes that are yellow, brown, gold, or bright red, and half-naked prehensile tails that they carry coiled up like springs. We stumble across a bright orange one sitting on a tree stump right behind the house on the first night of our arrival. Nobody knows what it is until a local Chinese store-keeper comes along and tells us that it is a kind of "possum." It simply stares at our lights and then moves cautiously around the stump, never letting go with more than one of its pink hands or feet at any one time.

West Queensland Sheep Station

THE FOOTHILLS of the Barkly Tableland in western Queensland seem, at first sight, to be endless. The homes of the ranchers are called stations and each forms the capital of an area that is virtually a country to itself. A pure-blooded Australian aboriginal man—bearded, with a tousled mop of curly jet-black hair and skinny legs, clad in old khaki pants cut off at the knees—takes us to the wild areas where kangaroos still bask in the sun and dingos lurk by night. Then one night, he insists that we sit without talking for a very long time in a little sandy place among tall grass. He has something he especially wants



Fig. L: The CUSCUS is the weirdest of the Phalangers or Australoid 'Possums. They are nocturnal animals of the tropical forests that live in trees, and eat insects, birds, and fruits. *Photo: New York Zoological Society*



Fig. M: The BROAD-FOOTED PHASCOGALES is one of the many species of so-called "Pocket-Mice" of Australia; tiny marsupials that kill mice and other animals which are still fairly common throughout that continent. *Photo: Photo Library*

us to see and he puts lots of little pieces of chicken skin and chopped cocoanut out on the sand. And in due course, some mouselike little animals with long sharp muzzles and bright orange fur come running out of the grass, apparently oblivious of our flashlight beams. They have bulging black eyes and strangely thick tails and one carries its hindquarters high off the ground. The Australian points excitedly and we see, beneath its tail, a mass of tiny naked faces peering out. It is some time later before we learn what these animals are. They are carnivorous mammals, called Phascogales (Fig. M) distantly related to our opossums and to the kangaroos, that have pouches pointing backwards. They have ridged pads under their fingers and toes and are expert climbers.

The Plains Of The Upper Darling

THE CONTINENT OF AUSTRALIA is shaped like a vast saucer. Within the mountains that ring its periphery the land slopes gradually inward

to a vast central desert. Behind the mountains are upland plains that were once covered with grass, and dotted with eucalyptus trees and mobs of kangaroos. Today, vast sheep and cattle stations have spread far towards the deserts from the eastern mountains, especially in Queensland and New South Wales but there are wild places where the original fauna of the country may still be found. It is around the headwaters of the mighty Darling River that we are present when some ranchers who are interested in natural history start an investigation of one of Australia's most curious and lovable inhabitants. The procedure entails an enormous amount of hard work and the use of heavy road-building equipment because the principal objective is to lay bare the complete underground system of burrows and living quarters of a Wombat. The animals that made this warren have al-

Plate 12

This species used to inhabit the lowlands of most of Australia, while the Naked-nosed, the mountains. Both have now been almost exterminated.

Known colloquially as a badger, this carnivorous marsupial is now found only in Tasmania. It has a pouch that points backwards to carry its young.

Plate 3

ready been caught and are to be released in an adjacent area as the species is fully protected and in danger of extinction. The burrows prove to stretch around a low hill for over a hundred yards, sending passages downwards to a depth of thirty feet and include two large living rooms lined with bark and roots. Wombats (No. 12) are big marsupials that have only two upper and lower front teeth which grow all the time like those of rodents. They are leaf and grass eaters, harmless, and easily tamed.

The Green Land Of Tasmania

OUR HOSTS KEEP TALKING about badgers and we are greatly mystified, because we are in a land where we had been told these animals are completely unknown. However, since not only cats and dogs but rabbits, the red fox and many other animals have been introduced to the island of Tasmania we at first presume that some misguided personages have also introduced the European Badger. However, we are taken on a long walk along a river that meanders along the base of a succession of low wooded hills and finally reach an open place where a number of sheep are grazing. They are guarded only by a lone dog, which greets us effusively, and then trots off to the river bank, where it crouches down by a large hole under a fallen tree. We dispose ourselves about on the turf and are told to watch in silence. And eventually we are rewarded by seeing an extraordinary black animal (No. 3), that at first appears to be more than half head, which emerges from the hole. It snarls at the dog and then suddenly trundles away along the log towards the river. At a word of command the dog darts after it but the creature splashes into the water and disappears. Our local friends get up, laughing, and tell us that this is a regular ceremony and that the dog never really goes for the "badger" unless he has molested the sheep. Then the dog won't let him out of his hole. The animal is known as a Tasmanian Devil.

A Damp Place In Tasmania

ON THE WAY BACK to the house we take a more direct road that cuts straight across some marshlands. The twilight is prolonged because we are far south and it is summer and, as we walk quietly



Fig. N: The LONG-NOSED RAT KANGAROO —related to the true kangaroos various species of Potaroos which once inhabited most of Australia and Tasmania. They are still fairly common in parts of the latter country. *Photo: Photo Library*

along the grassy verge of the road, our friends tell us many sad tales about the wonderful animals that used to live in their country but which have been exterminated by the introduced dogs, cats and foxes. Just when we begin to feel thoroughly depressed about this ruthless slaughter of all these wonderful creatures, we come face to face with some of them that have survived. In an open wet place where little clumps of reeds stand in meandering patches of shallow water, a number of little gray animals are leaping about on their hind legs as if playing a game of catch-as-catch-can. They look like tiny kangaroos but have small rounded ears and long pointed noses (Fig. N).

Plate 1

The GOLDEN LION-MARMOSET is one of the most colorful of mammals, a kind of bird-eating sub-monkey from one limited area in Brazil.

Actually, they are not playing a game but are catching insects which form a goodly part of their diet along with other small animals and certain roots and bulbs. They are Potaroos which build small grass nests and behave rather like rabbits, coming out at dawn and dusk to feed, and being very frisky indeed.

Across The Plains Of Patagonia

OUR NEXT STOP is in a country on the other side of the earth, the very name of which is a puzzle to most people. Patagonia is an immense, flat land facing the south Atlantic from which perpetual and usually very cold winds blow. It is a part of the country we call

the Argentine but it has a strange fauna all its own and quite unlike the rest of that country. As we ride along through the low tangled scrub, many animals go running away ahead of us. There are wild llamas, ostrichlike birds called Rheas, and many smaller creatures. Among these are numerous parties of Maras (No. 11), which look, at a distance, like a mixture of tailless dogs, small deer, and very large rabbits. When we first see them, they are lying down, sunning themselves but as we approach they leap up like released springs and go bounding off over the tufts of tall grass at an incredible speed. And as they go, each flashes a signal with a patch of brilliantly white fur that opens up like a fan on its backside.

By The Waters Of The Parahyba

BRAZIL IS A VAST COUNTRY, exceeding in area not only the United States but all others except Russia. It is also one of the most varied in climate and appearance, and it contains within its borders more

Plate 11

A Giant guineapig that inhabits the pampas scrublands, and semi-deserts of the Argentine, digs large burrows and has immense eyelashes to protect its eyes from the glare of the sun.

kinds of animals than any other country in the world. We only have a few days here but almost every hour we see some new and strange animal, even in the great cities. One of the most memorable is encountered on a boat trip down the Parahyba River, which flows through lush tropical forests to the South Atlantic seaboard. Trouble

with the boat's engine brings us alongside the bank under the trees. At first there is only silence in the afternoon sun; then, suddenly, a high-pitched trilling noise starts in the foliage above, as leaves and berries shower down upon us. Looking up, we see a group of little, hand-sized animals running about the branches, calling like birds, but they are of such an incredible color and general appearance that we hardly believe our eyes. They are shining, metallic gold all over, have tiny bright blue eyes, long slender limbs and fingers, and a tail shaped like a dumbbell (No. 1). Their black faces are naked and the hair of their heads is parted in the middle and falls over their shoulders like a mane. The boatmen call them "Little Lions."

Plate 10

The most common of the New World forms of these primitive hoofed mammals, related to rhinoceroses, and having a fifty-million-year-old ancestry.



Fig. O: HUMBOLDT'S SAKIWINKI is one of several species of Sakis, kind of half-monkeys of South America that eat leaves, fruits, and insects and make noises like a bird. *Photo: Ernest P. Walker*

At The Mouth Of The Amazon

THERE ARE HUGE FOREST TREES all around but where we are standing in a sort of lake of wild bananas called *wahas*, about four feet tall, there is one isolated clump of small bushes. There is something in these bushes; we can all hear it breathing, we can hear its stomach rumbling, and every now and then we see a branch move but, peer as we may, none of us can see what it is. The clump of bushes is not much bigger than an automobile and only about six feet tall yet some large animal is hidden in it not half a dozen feet from us. And, were it not for the fact that we have beaten down the *wahas* all

around we never would have seen it even when it finally makes a dash for freedom. It is an animal about the size of a donkey but shaped somewhat like a small rhinoceros. The head is long, held low, and ends in a small downcurved trunk. This is the only really "big"

Plate 26

A domestic variety of the South American camel developed from the Guanaco. It comes in a variety of colors.

animal of South America—a Tapir (No. 10) and is one that, though normally of mild disposition, should be greatly respected. If cornered it can inflict a severe bite, for it has tusklike canine teeth like those of a hog. It is a very compact beast and extremely powerful for its bulk. The young are marked with lines of yellow spots.

The Headwaters Of The Amazon

IT IS NEAR THE HEADWATERS of one of the great tributaries of the mighty Amazon River that we have an unforgettable experience. We start out shortly after dawn in small dugout canoes—one of us in each, and each paddled by a bronze-colored Amerindian wearing only a monkey-skin sporran. What is more, we dart straight at and through the bank of the river and then glide swiftly along under the canopy of the mighty forest between the immense boles of the trees. The place looks like an endless cathedral with the sunlight filtering through the green canopy above, the perfume of strange aromatic plants pervading the air, and the perpetual music of the insects, whirring away on high. There are all kinds of creatures moving about above us, the most obvious being monkeys. One of these, more inquisitive than the rest, comes down to the lower branches to inspect us, but to call this animal a monkey is perhaps stretching a point, for it wears a large cape, has a tail like a fox, and runs along the branches on its hind legs with its tiny, human-shaped hands held on high like a tightrope walker (Fig. O). It makes strange chirruping noises at us but its face bears an expression of unspeakable misery. Then it goes away and with such speed and agility we can hardly believe our eyes.

A Flight To The Andes

THE WESTERN SIDE of South America rises into a towering ridge of mountains called the Andes. Actually, there are two parallel and several subsidiary ridges, and between them is suspended a series of valleys at great heights above sea level. On these high plains or Altos Planos live several special kinds of animals, the most notable being relatives of the camels, known as llamas. Of these there were originally two kinds, the little Vicuña and the Guanaco. From the latter, two rather different domesticated animals were long ago developed by the earliest human inhabitants, one called simply the Llama, the other the Alpaca (No. 26). The first one we encounter is the Alpaca chewing on a piece of straw. A more idiotic-looking animal we have never seen, yet the poor thing is doubtless a proud beast in the eyes of other Alpacas and is certainly a very useful one, to its human

Plate 23

The first specimen recorded was found wandering about a backyard in a small Peruvian town in 1872. A large rodent and exceedingly rare member of the porcupine family seen alive about half a dozen times.

owners, as it supplies them with a large amount of good wool and fine table meat. Throughout our travels in these highlands there always seems to be a party of these animated couches meandering about somewhere nearby for they are hardy beasts and need little care.

The Highway Of The Incas

ALTHOUGH THE EMPIRE built by the Incas of Cuzco had neither money nor an alphabet it developed a nationwide system of roadways that has never been equalled anywhere in the world. No vehicle ever moved along these roads because the wheel was unknown; everything including even ores from which metals were smelted was transported on the backs of llamas, trains of which sometimes numbering hundreds of animals constantly trudged all over the country and up to

These are primitive dog-like animals that dig holes, eat insects and roots and are related to the Hunting Dogs of South Africa, and the Dholes of the Orient.

Plate 7

heights of thousands of feet. We take a trip along one of these roads and upon it we meet, on a high pass, a party of llamas plodding upwards from a distant valley, each carrying on its back two large baskets filled with all manner of goods. In one of these sits a strange gray animal with a huge head and enormous white whiskers. Its body is spotted and it has a thick tail. Never having seen anything like it before, our Peruvian friends ask what it may be and we are told that it is a Pacarana (No. 23). When they ask where it comes from, the natives simply point to the east and then shrug their shoulders.

The Hidden Savannas Of Amazonia

THE AVERAGE VEGETATION map of South America shows the whole of the vast drainage basin of the Amazon colored bright green indicating that it is covered by a continuous blanket of forest or "jungle." However, since the advent of the airplane, we have learned that great parts of this, particularly between the rivers in Colombian territory is, on the contrary, covered by huge areas of open country clothed only in short grass. On these lakes of savanna, lives a very strange and unique fauna. Among the mammals is a kind of doglike animal (No. 7), of a most odd and ridiculous appearance, or so it seems to us. We not only encounter but capture a pair of these one evening on a visit to an airfield which is under construction on one of these savannas. As the grass and brush is cleared, a series of holes in the

Plate 6

The Douroucouli is the only monkeylike animal that is exclusively nocturnal. It sleeps in holes in trees by day and eats mostly insects. Some green nuts and fruits may be included in his diet.

Distant cousins of the monkeys that have claws like squirrels and large, sharp tusks for rending flesh. Inhabiting the Caribbean lowlands of Colombia.

Plate 18

sandy soil come to light. A fire is built in one of these and in no time at all two animals dash out of another hole into a net bag. They look like dogs but have long, low chassis like dachshunds, and they have a nasty non-dog smell. They are not real dogs despite the only English name of "Bushdog" given to them long ago.

The Highway Of The Americas

THERE IS ANOTHER famous system of roads in South America known to us as the "Pan-American Highway" which is supposed to link all the countries of the two continents from Canada to the Argentine. Unfortunately, it is not completed and one of the largest gaps lies between Colombia and Panama. But work is proceeding and we are

driven down into the steaming tropical forests to see for ourselves the difficulties the engineers are encountering. And it is here that we are taught a lesson in contrasts for we see the most modern mechanical monster bite with its metallic teeth into a river bank and bring up one of the most primitive mammals in the world. This is gray above and white below, but has curious wedge-shaped, black saddles over its back. Its tail is long, naked, white-tipped, and scaly, its bulging black eyes blink in the sunlight, and it sits up on its long kangaroolike back legs and opens its mouth at us over the top of the scoop. The workmen are mildly excited and explain that it is a Yapok (Fig. P), or Water-Opossum. It has webbed hind feet and spends most of its time diving for shellfish, crayfish and other small animal food, in mountain streams.

Along The Banks Of The Magdalena

AS THERE IS NO ROAD through to Panama, we leave Colombia by way of the great Magdalena River, trekking slowly down its valley partly on foot, part on horseback, sometimes by boat, and finally



Fig. P: The YAPOK is a very ancient and specialized form of Opossum found mostly in mountain streams from Guatemala to Brazil. The mother tows her young about attached to her tail when diving under water. *Photo: New York Zoological Society*

arriving in the port of Cartagena in an automobile. The first part of the trip is the more exciting because we see many strange sights and most notably the flame-colored birds known as Cocks-of-the-Rocks wheeling around the towering cliffs like pigeons in a great northern city. One day we see a vast tribe of incredible little monkeylike animals wearing huge, plumed, white topknots. This makes them look like miniature African chieftains wearing ostrich-plume headdresses. They



Fig. Q: The TAMANDUA, also called the Lesser or Four-fingered Anteater, comes in various patterns of black and yellow, has no teeth but terrible claws and is very quick. *Photo: New York Zoological Society*

Smallest of the American climbing opossums that sometimes arrives in the U.S. from the tropics in bunches of fresh bananas.

Plate 15

chitter and scream at us as they leap hysterically about the lower branches of the trees and they do not appear to be in the least afraid of us. Some carry one or two babies on their hips and these, we are told by the natives, are the fathers. These little animals are known to us as Cottontops or Cottonhead Pinchés (No. 18), and are bird and insect eating relatives of the marmosets.

The Rain Forest Of Bolivar

THERE IS ONE NIGHT that, in all our travels, we do not forget. Night-fall catches us on the wrong side of a collapsed bridge over a dangerous torrent. Our Colombian friends construct a shelter with huge palm fronds that is surprisingly watertight but then the rain stops and the night becomes an uproar. Never have we heard so much sound or so many kinds of sounds at one time. Insects and frogs by the millions fizz, whirr, chirrup, croak, whistle, and buzz incessantly, other things make noises like bells, small claps of thunder, and chords on an ill-tuned piano, while above all is the terrific roaring of the Howler monkeys. But there is one call that carries through everything. It starts with a sort of "chik-chik-chik" and then goes "boing" like a bass drum. The local men say it is the call of the *Mico de Noche* or Monkey of the Night, and to prove their point they go searching. Sure enough, they soon point out an animal with enormous



Fig. R: The KINKAJOU is a common nocturnal denizen of tropical American forests, with a varied diet, and makes a lovable but unreliable and a dangerous pet. *Photo: New York Zoological Society*

red eyes (No. 6), clinging to a bare branch and staring at us in the flashlight. Keeping perfectly still we wait and soon its throat swells up and although its mouth does not open the forest reverberates with a loud "chik-chik-hick—Boooom." It is a Douroucouli.

A Cacao Plantation In Nicaragua

AFTER A DELIGHTFUL PASSAGE on a little island schooner—actually, a large motorboat without a sail of any kind—from Cartagena to Bluefields, we drive out to a large cacao plantation carved out of the tall forest. The cacao bean, or pod, develops on the trunk and limbs of the tree on a short slender stalk and is about the size of a large avocado. Its contents are intensely bitter to the tongue and were used by the Aztecs of Mexico to make the original *xocltl* or "cocktail," being beaten up with fruit juices and ice brought from the high mountains and eaten out of a goblet with a spoon. The Spaniards sweetened this with sugar and developed therefrom what we call chocolate. There

are many old cacao pods lying about on the ground under the trees and most of these have holes cut into their hollow interiors. Picking up one of these, we are surprised when a mouse-sized face and a tiny pair of pink hands appear in the hole. Breaking open the pod we bring to light a silky-furred, little animal with large bug-eyes and ears that can be folded up like concertinas. It attaches itself to our finger and hangs upside down by its tail. This is a Mouse-Opossum (No. 15).

Guatemala's Giant Rollercoaster

THERE IS A RAILROAD in Guatemala that runs downhill for almost a hundred and fifty miles from the capital to the Caribbean port of Barrios. If you are very lucky you may be invited by the railroad company to make the trip on a small open, motor-driven vehicle used for maintenance work. This is an experience that can in no wise be surpassed anywhere else, not only for thrills, but also on account of the magnificence of the scenery, ending in passage through towering jungles. We are privileged to make this trip and when we enter the forests we see something that we cannot pass by. There are long creepers hanging from the trees and at the end of these an extraordinary animal is suspended by its tail while it bats what appears to be a football suspended from another liana. We stop almost beneath it, and are told that it is a Tamandua (Fig. Q), and that it is trying to break open a tree-ant's nest. We stand and watch while it rips open the hard nest and probes into it with its long pink tongue for the insects and their eggs and larvae. And all the time it hangs upside down by its naked tail which is curled round the creeper.

Caribbean Jungle

WITHIN ONLY A FEW MILES of the docks of Puerto Barrios there are ancient forests of great trees covered with orchids and creepers. Through these meander many small paths along which Guatemaltecos ride on small ponies and by which the Amerindians pad down from the hills on sandalled feet. Loathe to leave the tropics, we take a last drive to the forest and walk slowly along one of these winding paths. This is a quieter jungle than any other we have visited so that a single leaf falling attracts our attention. Concentrating our

Plate 14

Piglike animals found all over South and Central America and in Texas. They once lived as far north as New York.

flash beams on a great tree-head we at first see nothing but then first one and then another pair of orange eyes blaze out above and more and more pop up amid the branches until a host of little brown animals comes into view. They trundle along and sometimes hang by their tails and they call to each other with small chuckles. Our local friend calls them *Micos de Noche* but they are very different from the animals we saw in Colombia. They are Kinkajous (Fig. R), relatives of the raccoons and the only other carnivore besides the Binturong that has a prehensile tail.

The Sierra Madre de Colima

THE ROAD FROM COLIMA CITY, capital of the small Mexican state of the same name, to the Pacific coast port of Manzanillo, runs straight down a valley between two towering mountain ranges. That on the right side is, like so many other ranges in Mexico, called the Sierra Madre, and beyond it, is a wonderful hidden valley that we want to visit. The car turns off the main road some miles out of the city and plunges headlong into the dusty countryside, skidding between clumps of dry cactus and spiny bushes, climbing over a bare ridge, and finally descending into this lush valley. Here clumps of tall forest, looking almost like real jungle alternate with fields and little marshes, and the dirt road plunges into a belt of forest. Then we come to a skidding stop. The reason is simply that the road ahead is covered by a mass of brown

animals about the size of cats but with long ringed tails held straight up in the air (Fig. S). They are Coatimundis with long, rubbery, white noses and huge front claws and they make squeaking noises. They are literally tearing up the whole earth, turning over stones, ripping open logs, exploring all holes, climbing trees, and crunching up everything edible they can find. They hold us up for ten minutes.

Just South Of The Border

OUR LAST NIGHT on foreign soil is in one of nature's countries that is really not foreign at all as it extends over the border and encompasses a large area of our own southwest. We have motored up into the moun-



Fig. S: The WHITE-NOSED COATIMUNDIS is another relative of the Raccoons that goes about in large parties and a form of which inhabits our own South-western States. *Photo: New York Zoological Society*

tainous territory of the Yaquis to visit an ancient silver mine. Arriving at sundown we sit down to an enormous meal but as Mexican hospitality can be almost overwhelming and last till dawn, we slip away for a stroll over the sandy, cactus-studded hills. We walk along silently in the brilliant moonlight until the sounds of music and song die away in the distance. Nights in Sonora are gentle. Fairy cactus-owls flit silently about, kangaroo-rats hop over open places, and small rabbits scurry under bushes. There are also bigger things roaming about as we soon discover for, rounding a clump of bushes, we come on a band of what we at first mistake for domestic pigs but quickly realize are a party of Peccaries (No. 14), that may, if pressed, become very dangerous. They mass together facing us and clatter their jaws until we retreat; then they calmly go back to rooting, and we just fade away.

Plate 21

Another member of the Raccoon tribe that is really quite common throughout the whole south and western part of our country from Oregon to Alabama.

We Stop Off In Colorado

BEHIND THE RANCH HOUSE is a steep rocky hill dotted with bushes. The dogs, usually so quiet are, however, raising a most annoying rumpus. Taking lights, we spot the dogs, crouching in front of some rocks high up on the hill, barking and lashing their tails but when we arrive on the scene they come running, looking excited, and then dash back to a hole and continue barking. We peer into the hole and see, perched on a dead branch in a small cave, a foxy-faced little animal with bright eyes, large ears, handlike forepaws and an immense bushy tail, vividly and beautifully marked with alternating black and white rings. Our host just grunts and then, turning to the dogs, points to the house and drawls "Git back down you fool coon-hounds; think you'd never seen a ringtail before" and he takes a friendly swipe at one. The dogs creep off, looking foolish, and we turn back to the cave; but the animal has gone. However, our host takes the flash and, after poking about for some time, beckons to us. We look, and there, almost unbelievably, we see the cat-sized Cacomixtle (No. 21) wedged into a crack that certainly cannot be more than an inch and a half wide. "Those critters can get into or out of anything" our host drawls and we can well believe it.

ABOUT THE AUTHOR

IVAN T. SANDERSON is a Fellow of numerous American, British and other scientific societies. His background is supplemented by first-hand knowledge gathered in the field. Mr. Sanderson began his career at seventeen when he embarked on what he calls a "one-boy" zoological expedition to obtain animal specimens for the British Museum. His books include *Animal Treasure*, *Caribbean Treasure*, *Living Treasure*, *Animal Tales*, *Animals Nobody Knows*, *How to Know the American Mammals* and *Living Mammals of the World*. His wide renown in the world of natural history is equalled by his popularity with the general public as a lecturer, writer, and television star.

We are indebted to the following prominent Nature Photographers for the full-color illustrations appearing in this volume:

Plate No. 1, 6, 7, 11	Arthur W. Ambler
Plate No. 2, 4, 5, 8, 13, 16, 17, 22	John Markham
Plate No. 3, 12	Dick Hanley
Plate No. 9, 10, 19, 20, 23, 24	Cy LaTour
Plate No. 14, 26	Van Nostrand
Plate No. 15, 18	E. P. Walker
Plate No. 21	Walt Disney Productions
Plate No. 25	Ylla, from Rapho- Guillumette

Your Nature Notes

Your Nature Notes

Your Nature Notes

Your Nature Notes

Your Nature Notes

Your Nature Notes

Your Nature Notes

AUDUBON MEANS CONSERVATION—Theodore Roosevelt said: "I do not understand how any man or woman who really loves nature can fail to try to exert all influence in support of such objects as those of the Audubon Society."

Founded in 1905, the National Audubon Society is the oldest and largest national organization working for the conservation of wildlife, plants, soil and water. The Society's educational program reaches into millions of homes annually. More than 9,000,000 children have worn the pins of the Audubon Junior Clubs. Audubon Camps train adult leaders to teach nature and conservation subjects more effectively. Audubon Wildlife Tours thrill those who go afield with expert naturalists of the Audubon staff. Faithful wardens of the Society protect birds and other wildlife by patrolling more than one million acres of land and water—including the Audubon Sanctuaries. Because of these and many other activities, membership in the National Audubon Society offers an answer to those who ask, "What can I, as one individual, do about conservation of wildlife and other natural resources?"

National Audubon Society headquarters are at 1130 Fifth Avenue, New York 28, N. Y. The Society is supported by membership dues, contributions and bequests.

